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ABSTRACT

The paper reports conclusions of a study group established to develop a Career Development Model for National Institute for the Deaf (NTID) students. An executive summary gives an overview of the group's most important conclusions, including that all students should have at least one good receptive language skill. Listed among the skills needed by students to begin their major program are mathematical competency, English language competency, ability to make career decisions, and receptive skills. Findings related to the career development of students include: personal/social skills should not be used as criteria for entry into the program; there are few programs which actually have formal prerequisites or entry requirements; and there is little reliance on test scores in terms of deciding which students can begin their major coursework. There was broad support for some type of preparatory program which would allow students more time and more data on which to base a career decision; allow for more interaction with students and more thorough assessment of students' abilities by faculty and staff; and allow time for appropriate skill building in the areas of information reception, math, English, and career decisionmaking. Appended is a summary of results from structured interviews with 36 members of the NTID professional staff. (SB)

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PRIORITY NEEDS OF ENTERING NTID STUDENTS

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"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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NTID's principle goal in doing research is to influence the education, training and career placement of deaf citizens through systematic examination of issues related to deafness. As one part of NTID's total research effort, the Department of Research and Development conducts descriptive and experimental research. Research findings are used in the development of programs and materials in the areas of learning and instruction, personal and social growth, and career development of deaf students. This document was developed in the course of an agreement with the U.S. Department of Health, Education and Welfare.

EC 140611

REPORT OF STUDY GROUP ON EARLY STAGES OF CAREER DEVELOPMENT

It is important that the initial experiences of any academic program be appropriately matched with the skills and abilities of students beginning that program. The lack of certain skills and abilities (on the part of students) which are required or desired for beginning levels of an academic program can be termed "needs." Traditionally, the Summer Vestibule Program (SVP) has served an important role in identifying and meeting some of the needs of students entering the National Technical Institute for the Deaf (NTID). But, by the end of SVP '76 it was apparent that the program was in need of serious review and revision.

The time span available to conduct SVP had gradually diminished due to changes in the Institute calendar, while the number of students enrolled in the program had steadily and substantially increased. Many people felt that the objectives of SVP were not being met in the time allotted.

At about the same time, the Career Development Model had been proposed as a descriptor of the way in which an NTID student moved through a career development process. SVP should be related to the early stages of this model, particularly to the stages related to the process of choosing a major course of study (Stages III through VI). Rather than focus on revising SVP, the real need was to determine what should occur during Stages I to VI, especially Stages III - VI.

Consequently, a study group[a] was formed in Fall, 1976 and charged with determining:

1. What NTID students need in order to begin their major course-work;

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[a] study group members consisted of Ann Areson, Suzanne Vos, Nancy Kadunc, Jeanne Long, Edward Maruggi and Karl White

2. The sequential relationship, if any, among those items identified as "needed";

3. Possible strategies for delivering the necessary information or skill training.

The group, consisting of six people from the Divisions of Technical and Professional Education, Communications and General Education, met over a period of two and one-half months considering and discussing these tasks. In addition to written reports and their own backgrounds and experiences, the group gathered and interpreted information from structured interviews with eight chairpersons, sixteen faculty and twelve career counselors.

The conclusions of the study group are presented in the remainder of this paper. The first section, an executive summary, is deliberately abbreviated in order to give the reader a quick overview of the group's most important conclusions in a way that the important points will stand out and relationships will be clear. The next four sections give more details and expand on the information contained in the executive summary. In the appendix, the data collected in interviews with faculty, career counselors and chairpersons are summarized question by question.

Executive Summary

A. Substantial numbers of students should demonstrate higher levels of competence than they do at entrance to NTID in the following areas, before beginning their major coursework:

1. Math

2. English language competency with particular emphasis on reading comprehension

3. The ability to make sound career decisions

B. All students should have at least one good receptive skill (i.e., manual communication, speechreading or simultaneous communication). At the present time this may not be as serious a need for improvement as the above areas because most students come to NTID with some skill in this area.

C. At the time of their entry into NTID, very few students (approximately 5%) are so deficient in personal/social skills that technical/professional departments would deny these students entry until substantial improvement had occurred. However, between 25% and 50% of NTID's students need to improve their personal/social skills (especially motivation, ability to get along with others, self-responsibility and attendance) in order to successfully complete their major programs.

D. The procedure for admitting students to majors is strongly centered on the career counselor's input and there is little reliance on most testing. Very few formal denials of entry to a major program occur.

E. Although few programs have formal requirements, many program personnel are confident about the factors which can serve to predict a student's success or failure in the major.

F. There is a broad support for some form of preparatory program.

What Do Students Need In Order To Begin Their Major Program?

A. Some level of mathematical competency is the technical skill most frequently needed by NTID students in order to enter a technical major. Over two-thirds of the persons interviewed* for this study cited a particular level of math ability as an entry requirement of their majors and/or a strong success factor related to performance in the major. Most other technical skills considered important for success were related directly to the technical major (e.g., sciences for science majors, technical/creative art skills for fine and applied art programs, etc.).

B. English language competency with specific concentration on reading comprehension was the second factor identified as necessary for beginning a major program. While relatively few programs (30%, most of which are bachelor level programs) presently require formally a particular level of English competency, eighty percent of the persons interviewed in connection with this study stated that a student's English ability had a direct bearing on his/her success in the programs at NTID. Over half of these individuals referred to reading comprehension as part or all of their definition of English ability.

*Here, as in the remainder of this report, references to interviews, percentages and numbers refer to the structured interviews with eight chairpersons, sixteen faculty and twelve career counselors.

Reading ability was also identified as the most serious deficiency of students at the time of entry into their major programs.

C. The ability to make career decisions is a third critical need of students. In the opinion of NTID chairpersons, faculty and career counselors, only about 45 percent of the students at NTID are actually ready to make a sound career decision at the time they enter their major programs. ("Ready" refers to maturity, information, decision-making skills, etc.) In spite of this, 94.6% of the students in SVP '76 made a career decision at the conclusion of SVP. The reasons for such a high number of students making decisions which faculty and career counselors considered premature might be partly explained by the fact that eighty percent of those interviewed felt there was excessive pressure on students during the Summer Vestibule Program to make a career decision by the end of the program. If one-half of the students who make decisions are unprepared to make them, there is an urgent need for more career education to occur (information dissemination, skill building in decision-making, etc.) prior to the point at which students are expected to make a career decision.

D. Receptive skills (speechreading, manual or simultaneous reception) specifically related to the ability to receive information well enough to understand lectures, questions, direct-

ions was the fourth factor identified. Nearly 40 percent of the persons participating in the study named receptive skills as having a significant bearing on a student's success in a program.

After reading ability, receptive skills were seen as the most serious deficiency of students at the point of program entry.

Other Findings Related To The Career Development Of Students

A. A number of personal/social skills are viewed as predictors of success in the major programs. Almost no one felt that these skills should be used as criteria for entry to the program. Reasons for this ranged from a lack of confidence in ways of measuring the important skills, to a feeling that everyone with the appropriate technical and communication skills should be allowed to try any major program, to the feeling that a skill was one that ought to be taught by the major program but not required at entrance. The most important personal/social skills are described below:

1. Motivation (includes drive, enthusiasm, commitment to the major) and responsibility for oneself are categorized as deciding factors between success and failure in a program by 50 percent of those interviewed.

2. The ability to get along with others (participating in group activities and discussions, respect for others, etc.) was a frequently named personal/social skill which was viewed as having a significant impact on a student's success in a major program.

3. Attendance (time-consciousness, punctuality) was considered by 30 percent of the respondents to be of critical importance to a student's success but not an entry requirement.

B. The procedure for admitting students to specific programs is currently "soft" with heavy reliance on the career counselor to provide the recommendation on admission to the technical department. There are few formal denials of entry into programs. With few exceptions, if the student is felt to be unacceptable with regard to entry criteria being used, there will either be an attempt made to "counsel the student out" or the student will be accepted on a provisional basis. It should be noted that secondary handicaps which are identified prior to entry into a program as absolute barriers to success in a program or as posing a serious safety threat to the student in a particular program, do result in denials for entry into programs. There are few programs which actually have formal pre-requisites or entry requirements. Of those programs which do have pre-requisites, exceptions can be made

and are made on a student-by-student basis. It is important to note that two-thirds of the programs sponsor a pre-tech or preparatory program to bring students to a level of preparedness necessary to begin the technical or professional major.

There is little reliance on test scores (with the exception of Math Learning Center placement tests, the NTID English tests, and to a lesser extent, the visual screening tests) in terms of deciding which students can begin their major coursework. This is attributed partly to the fact that results of many of the tests now administered are seen as being useful tools for counseling purposes, but have a low bearing on predicting the student's success in a program. Additionally, some persons interviewed stated that their personal observation of and interaction with students provided assessments at least as reliable, if not more so, as those provided by test scores. It appears that many of the tests now given in SVP could be postponed as they do not serve a highly useful role in deciding which students to accept to majors. If such tests were postponed, provisions would have to be made to administer them at a later period.

Over 95 percent of those interviewed had strong convictions about skills or attributes related to success in their majors and there was consistency across programs as to what these factors are (see What Do Students Need To Begin Their Major

Program?). At the same time, there is a reluctance to translate these opinions and experiences into formal requirements and a lack of consistency in applying extant requirements to students seeking entry to majors. There is, however, a heavy reliance on pre-technical and pre-professional programs, which implies that there really are necessary entry skills for many majors and that many students do not possess these skills when they enter NTID.

The committee concludes that this set of factors (i.e., "soft" admissions procedures, rare instances of denial, low reliance on most tests, firm and consistent views on predictors of success, a reluctance to establish or enforce entry requirements) is based on the following conditions:

1. The current period in which a student is expected to make a career decision (SVP) is too brief for faculty to assess and get to know students. For example, secondary handicaps and severe personal/social deficiencies often cannot be detected and assessed given the present contact time allotted to various departments in the sampling segment of SVP.

2. There is a low level of confidence in instruments used (with the exceptions of English and Math Tests) to measure

various skills, aptitudes and interests; and the results of tests are often made available too late in the decision-making process to be useful.

3. In many cases pre-tech programs of some type are available to make up for the lack of time for assessment characterizing SVP and the lack of skills characterizing most entering students. Thus, the decision to admit students to a particular major is actually postponed until the student completes the pre-tech phase.

Sequential Relationship Of Student Needs

The sequencing of the student's pre-major activities should depend on and vary with the needs and past experiences of the individual student. For example, a student with no receptive skills cannot receive much help in making a career decision until he/she improves his/her receptive skills. It would be foolish to ask a student to take a lot of math classes until he/she had made at least a tentative decision on a major which required a lot of math.

Most sequencing will be appropriate if it conforms to common sense. Obviously, minimal competence in information reception must be the first achievement with the ability to make sound career decisions following shortly thereafter, in most cases.

Improved levels of English competency seem to be a fairly general need, with skills in math and specific sciences depending on the major program of the student. Once a basic level of skill in receiving information is present, the sequencing of the other things will depend on the needs of the student.

It is conceivable that some or all of the "must have's" will have been taken care of prior to the student's entry to NTID. Consequently, early skill assessment should be a hallmark of the initial entry period so that students can be provided with compensatory/preparatory training, as needed, and also so that not all students will have to move through a predetermined and standardized sequence of activities geared to meet needs not necessarily present in individual students.

Possible Strategies For Meeting The Needs Of Students

There was broad support for some type of preparatory program which would: 1) allow students more time and more data on which to base a career decision; 2) allow for more interaction with students and a more thorough assessment of students' abilities by faculty and staff; and 3) allow time for appropriate skill building in the areas of information reception, math, English and career decision making.

It is interesting to note that there was strong support among those interviewed for most of the activities and goals of SVP, but gen-

eral discontent with the brief time allowed for these activities. This and the data described earlier suggest that even the present SVP could be made into a more effective and useful program by allotting more time to those activities which have a direct relationship to the process of entering a major (math and English testing, screening for secondary handicaps, testing for receptive skills, career education) and postponing activities whose nature is not critical to the career decision. However, it is still doubtful that, within the current SVP time frame, enough skill building in the critical areas (i.e., information reception, math, English and career decision-making) could occur.

Any preparatory program will have to be characterized by flexibility in meeting student needs. All students do not need exactly the same compensatory or preparatory experiences either in terms of content or in length of time spent on each unit. There must also be flexibility in the scheduling of technical curricula so that the student who needs only one quarter of prep work, for example, could enter the tech program when ready without losing one or more quarters time in a "holding pattern".

Finally, attention should be directed to the development of general introductory courses in the basic career areas (e.g., Introduction to Business). These courses would allow students in the prep phase to gain some contact with the career areas and would be particularly valuable as a sampling tool for students whose prep phase included

career education. Some consideration should be given to consolidating specialized prep courses (whose skills and concepts are common to one another) in an effort to better utilize faculty resources and extend opportunities for students to sample.

It is appropriate to work towards the goal of "exporting" some units of instruction in the critical areas of math, English and career education. However, this is a long-term prospect and can only be done once the instructional packages are proven to be valid with NTID's population. Even then it would take at least two decades for the instruments, units, etc. to gain such widespread useage that there would be no need for this training to occur at NTID. Meanwhile NTID must continue to provide a compensatory/preparatory program for most of its students.

If the exportation does take place eventually, which seems logical, NTID will have to plan to gradually reduce the amount of resources allocated to prep programs at NTID so that if and when widespread acceptance and use of the exported items occur, NTID will have been prepared for and working toward an ultimate cessation of prep programs on campus.

Finally, in view of the frequently stated support for work experience to serve as an aid in helping students gain some maturity, self-confidence and knowledge in such areas as managing money and

time, greater use should be made of possibilities for work experiences early in the student's enrollment at NTID.

It may be advisable for the experiences to range from those which are not necessarily related to the major but can accomplish skill building in money and time management and raise an awareness of communication skills needed in a work environment to experiences directly related to the student's technical studies. Such a range would allow students who were just beginning NTID and had few technical skills to acquire work experience, instead of limiting these experiences to students in their last few quarters of school.

APPENDIX

SUMMARY OF RESULTS FROM STRUCTURED INTERVIEWS

One of the primary methods of collecting information about the topics the group had been asked to consider was a structured interview which members of the group conducted with 36 members of the NTID professional staff (eight chairpersons, sixteen faculty and twelve career counselors). Selection was based on gaining first-hand input from each of NTID's programs from those people who were in a position to be the best informed about the career development of students. Each member fo the study group conducted from four to seven interviews.

The questions included in the interview along with the interviewer prompts were developed by the members of the study group and tried out and refined in two instances before the actual interviews took place. A copy of the interviewing schedule and a list of the people who were interviewed is included in this Appendix.

The results for each part of the interviews are described in the remainder of this section. In most instances these results are not broken down by categories of chairperson, career counselor and faculty because important differences between the groups did not show up in the original analysis.

Question #1: At the present time, are there any FORMAL requirements or prerequisities for entrance into your program?

TECHNICAL		COMMUNICATION	
What	Frequency	What	Frequency
Algebra	16	English	9
Physics	7	Reading Comprehension	2
Chemistry	6	Writing	2
Biology	4	Expressive/Receptive Communication	2
Tools Skills	2	Hearing Discrimination	1
Chemistry	6		
Basic Drafting	2		
Trigonometry	1	PERSONAL SOCIAL	
Creativity	1		
		Attendance and Punctuality	4
		Attitude	3
		Commitment	2
		Interest in People	1

Question #2: Could you briefly describe the process of how students are admitted to your program?

During the sampling the Career Counselors advise the students in making a career choice. Counselors use the Summer Vestibule Program testing results, interviews with potential students, and faculty input to evaluate the capabilities of the students. Generally, counselors make recommendations for acceptance into the program and the Chairperson "signs off". If a student is unacceptable for entrance or falls short of a requirement, the counselor, when necessary, will try to "counsel the student out" of the program. Generally, there are no denials. In these situations, the student may be accepted as a provisional student or into a pre-major program.

WHO HAS THE PRIMARY ROLE IN ADMISSIONS?

Group Process (involving faculty, chairpersons, career counselors and students)	23
Career Counselors	5
Chairperson	2
Don't Know/Didn't Say	6

WHAT IS THE PRIMARY BASIS FOR ADMISSIONS?

Use test scores as counseling tool but virtually everyone admitted	10
Rely on test scores or previously demonstrated skills	10
Interaction with students during SVP -- professional judgement	4
Nobody is denied - student essentially selects	4
Successful completion of pre-tech	2
Don't Know/Didn't Say	6

WHO MAKES FINAL DECISION ON ADMISSION?

No real decision -- everybody gets in at least provisionally	21
Group process (chairperson, career counselor, faculty)	5
Chairperson	3
Faculty	1
Don't know/Didn't say	6

Question #3: Does your program evaluate students for any secondary handicaps other than deafness prior to admission to the program?

Most departments evaluate secondary handicaps through observations during the Summer Vestibule Program, or during classes after acceptance. The general feeling is that admissions information about handicaps is helpful but often sketchy and not always reliable. Below is an indication of the frequency with which different secondary handicaps were mentioned:

Visual problems and color blindness	22
Manual dexterity	14
Cerebral Palsy	13
Stamina	3
Learning disabilities	2
Ushers syndrome	1

Question #4: What skills or attributes which students have at the time they enter the program contribute significantly to success?

TECHNICAL

A particular level of competency in mathematics	25
A technical skill related to the major (e.g., chemistry, physics, art)	10
No answer	2

COMMUNICATION

Reading	17
Ability to receive information in simultaneous mode	15
English level III or IV	11
Writing	10
Expressive communication skills	6
No answer	2

PERSONAL/SOCIAL

Motivation/Enthusiasm/Commitment to major	14
Punctuality, attendance, time consciousness	11
Responsibility for oneself	10
Ability to work with and relate to others	9
Assertiveness/self-confidence/independence	5
Neatness/Accuracy	4

Ability to handle money..... 2

Respect for others and materials..... 2

Honesty..... 2

Ability to criticize and accept criticism..... 1

Decision-making ability..... 1

Nothing..... 4

OTHER PREDICTORS OF SUCCESS

Previous work experience..... 11

Previsous effective career counseling and education..... 8

Good study skills..... 5

Question #5: A variety of tests are given to almost all students as they enter NTID. From which of these tests do you use the results in helping students? For what do you use them, how useful are they and when do you need the results for them to be most useful?

a. Visual Screening

25 Indicated use of the test.
8 Indicated it was extremely useful.
All who used the test said it was needed prior to entrance into program and results should be obtainable early during SVP.

b. CGPP - PIC - DAT

10 Indicated use of this group of tests.
2 Indicated they use only CGPP.
All use these as counseling tools - stating they use them not so much for information but as an aid in interpreting to student career information.

c. Hearing Disc. Sp. w/Sound Simultaneous Reception
Speech w/o Sound Manual Reception

Only 3 indicated that the communications testing above was important and/or useful for SVP.

9 indicated that test results are used later in counseling if there are communication problems.

Several commented that their observational methods are of more practical benefit.

d. Reading Vocabulary Reading Comprehension Writing

25 considered results of these tests very important and would like the information as soon as possible in Summer.

11 indicated that they do not use it at all.

e. Speech Intelligibility Non-Verbal Kinetic

1 respondent indicated that Non-verbal Kinetic results are sometimes helpful.

0 use or knowledge of the tests generally.

f. Socialization Profile Tests

0 knowledge or use of.

1 indicated had occasionally used CMI but didn't get it soon enough.

g. Math Learning Center Tests

29 responded that they use results of the MLC Diagnostic tests and stated that they need information as early as possible.

7 reported no use of these tests.

Question #6. What percentage of students who enter your program are really ready (with regard to maturity, previous information and experiences, etc.) to make a career decision at their time of entrance?

Percent of students ready to make career decisions.....	44.8%
Some kind of preparatory phase would be good.....	27
bad.....	4
Current SVP is not very beneficial.....	20
beneficial.....	5
The pressure on students to make a career decision is too much.....	23
appropriate.....	6
More emphasis should be made in high school on career decision-making.....	6
SVP should be more flexible - more respect for student differences.....	8

Question #7: At their time of entry into your program, where would you rate the majority of students along the following continuum?

no hindrance to success in program	minor	moderate	major	critical hindrance to success in program
1.0	2.0	3.0	4.0	5.0

	Average Rating	Standard Deviation
reading ability	3.59	.89
receptive communication	3.16	.95
writing ability	3.07	1.08
personal/social skills	3.02	.95
expressive communication	2.47	.89
technical skills (needed as prerequisite)	2.41	1.31

Question #8. Consider the relationship between specific personal/social skills and succes in your program.

	Average percentage of students who need to make significant improvement in this skill before graduating	Average percentage of students who should not have been admitted until they had improved in this area
1. Initiating relationships - making friends and meeting people	36.3	1.4
2. Maintaining relationships with people	34.8	1.5
3. Accepting responsibility for own actions	41.3	5.3
4. Handling advice and criticism from others	34.9	2.6
5. Respecting the rights of others	27.4	3.3

6.	Participating in group discussions and decisions	49.4	1.1
7.	Getting along with deaf people	20.5	.5
8.	Getting along with hearing people	28.3	1.2
9.	Abiding by established rules and authority	28.4	1.8
10.	Maintaining personal appearance	14.8	.4
11.	Attendance - includes punctuality and regularity	25.7	2.7
12.	Responsibility - doing what s(he) says s(he) will do	30.0	1.6
13.	Initiative -- tries to do more than is required	48.9	5.2